



2010	7.45	7.78	16.01	7.08	BN	1.43	4.53	6.08	3.55	AN
2011	12.68	11.53	25.21	10.54	W	3.68	6.90	10.99	5.58	W
2012	5.69	5.46	11.84	6.89	BN	0.83	1.86	2.76	2.18	D
2013	8.52	3.01	12.19	5.83	D	1.33	1.67	3.05	1.71	C
2014	4.29	2.59	7.46	4.07	C	0.46	1.21	1.72	1.16	C
2015	6.91	1.77	9.23	4.00	C	0.67	0.74	1.44	0.81	C
2016	12.24	4.60	17.48	6.71	BN	2.03	2.98	5.06	2.35	D
2017	26.17	10.69	37.82	14.14	W	6.65	7.77	14.84	6.46	W
2018	7.09	5.05	12.86	7.14	BN	1.64	3.01	4.76	3.03	BN
min	2.49	1.77	5.12	3.11		0.22	0.74	1.05	0.81	
mean	10.75	6.29	17.85	8.05		1.94	3.73	5.84	3.24	
max	26.17	13.68	37.82	15.29		6.65	9.24	15.01	7.22	

1966-2015 mean

WY	Eight River Runoff [maf]					
	Dec	Jan	Feb	Mar	Apr	May
1901						
1902						
1903						
1904						
1905						
1906	0.55	3.69	2.93	7.00	5.34	6.43
1907	2.14	2.83	6.01	10.40	7.32	5.86
1908	1.43	2.27	2.12	2.19	2.53	2.59
1909	0.66	11.14	6.85	3.71	4.22	4.78
1910	3.09	2.90	2.55	4.84	4.21	3.30
1911	1.15	4.11	3.61	5.88	6.36	5.71
1912	0.55	1.20	0.94	1.61	1.58	3.33
1913	0.77	1.60	1.01	1.32	2.81	3.31
1914	1.72	8.50	3.99	4.18	5.05	5.28
1915	0.76	1.86	5.43	3.54	4.43	6.38
1916	1.52	3.75	4.89	5.71	5.03	4.44
1917	1.28	1.01	3.13	2.15	4.29	4.37
1918	0.70	0.57	1.22	2.99	3.09	2.53
1919	0.68	1.20	3.13	2.74	3.89	4.06
1920	0.68	0.57	0.58	1.71	2.58	3.20
1921	2.90	4.34	3.15	4.22	3.30	4.01
1922	1.16	1.07	2.63	2.41	3.66	6.68
1923	2.03	1.75	1.20	1.51	3.38	3.66
1924	0.49	0.56	1.16	0.64	1.07	1.10
1925	0.92	0.94	4.99	2.18	3.82	3.70
1926	0.67	0.76	3.18	1.73	3.79	2.18
1927	2.01	2.22	6.05	3.53	4.82	4.28
1928	1.10	1.37	1.94	5.69	3.73	3.02
1929	0.64	0.61	1.12	1.29	1.63	2.49
1930	2.37	1.41	1.84	2.78	2.64	2.29
1931	0.39	0.80	0.78	1.20	1.23	1.18
1932	1.68	1.33	1.84	2.50	2.73	4.16
1933	0.42	0.70	0.58	1.89	1.97	2.36
1934	1.04	1.47	1.59	1.90	1.61	1.09
1935	0.79	1.87	1.56	2.13	6.18	4.74
1936	0.51	3.22	5.04	2.77	3.83	3.71
1937	0.45	0.54	2.36	3.28	3.77	4.92
1938	4.81	1.86	1.27	7.50	5.98	7.34
1939	0.80	0.79	0.81	1.91	2.26	1.47
1940	0.68	3.88	5.68	6.22	4.61	3.77
1941	3.41	4.28	5.07	4.72	4.62	5.75
1942	3.58	4.18	5.10	2.23	4.64	4.76
1943	1.83	4.67	2.84	5.33	4.23	3.59
1944	0.55	0.78	1.44	1.94	1.88	3.34
1945	1.50	1.07	4.13	2.17	2.82	3.82
1946	4.60	2.64	1.31	2.29	3.45	3.68
1947	1.06	0.64	1.57	2.51	2.20	2.05
1948	0.50	1.91	0.70	1.56	4.34	4.51
1949	0.66	0.53	0.92	3.32	3.27	3.39
1950	0.43	1.82	2.54	2.46	3.74	3.73
1951	5.95	3.40	3.52	2.66	2.81	3.15
1952	3.36	3.48	4.03	3.68	6.35	7.51
1953	1.92	5.40	1.52	2.06	3.25	3.38
1954	0.80	2.20	2.84	3.66	4.56	3.27
1955	1.35	1.16	0.96	1.27	1.97	3.22
1956	9.14	7.52	3.71	3.07	3.51	5.24
1957	0.61	0.79	2.65	3.41	2.36	3.85
1958	1.62	2.39	7.61	4.71	6.04	6.74
1959	0.58	2.25	2.50	1.98	2.27	1.82
1960	0.47	0.90	3.15	3.22	2.50	2.39
1961	1.36	0.86	2.14	1.93	2.02	2.16
1962	1.19	0.78	4.08	2.39	3.89	3.14
1963	1.90	1.70	4.66	2.10	5.60	4.99
1964	0.85	1.55	1.01	1.15	1.92	2.44
1965	8.66	5.61	2.26	1.97	4.74	3.81
1966	1.04	1.85	1.56	2.52	3.33	2.52
1967	2.98	3.34	2.52	4.09	3.82	6.26
1968	0.85	1.49	3.71	2.55	2.17	2.15
1969	1.77	7.91	4.73	3.36	5.44	7.34
1970	3.30	10.68	3.02	3.12	1.82	2.77
1971	3.26	3.05	1.83	3.73	3.40	4.18
1972	1.19	1.40	1.73	3.30	2.52	2.61
1973	1.83	4.08	3.66	3.27	3.08	4.76
1974	3.68	6.93	2.10	6.18	5.07	4.69
1975	0.86	1.01	2.92	4.65	2.89	5.40
1976	0.76	0.65	0.88	1.34	1.35	1.44
1977	0.38	0.47	0.48	0.54	0.69	0.91
1978	1.90	5.91	3.48	5.36	4.40	4.70
1979	0.53	1.44	2.10	2.90	2.67	4.50
1980	1.24	6.89	5.93	3.62	3.11	3.67
1981	0.92	1.57	1.76	2.48	2.32	2.11
1982	5.58	3.50	5.57	4.74	8.05	5.68
1983	3.69	4.25	6.46	10.57	4.87	6.96
1984	6.72	2.85	2.29	3.08	2.50	3.60
1985	1.20	0.84	1.21	1.59	2.79	2.14
1986	1.25	2.62	11.55	7.09	3.19	3.56
1987	0.53	0.78	1.48	2.60	1.73	1.48
1988	1.70	1.84	1.01	1.26	1.48	1.59
1989	0.72	0.85	0.99	6.17	3.59	2.22
1990	0.45	1.27	0.88	1.84	1.80	1.77
1991	0.34	0.37	0.45	2.64	1.95	2.40
1992	0.47	0.58	2.41	1.99	2.17	1.33
1993	1.25	4.06	3.13	5.70	4.33	5.23
1994	0.78	0.78	1.23	1.49	1.57	1.79
1995	1.06	8.11	3.12	10.19	5.61	7.18
1996	1.72	2.47	6.25	4.25	3.97	5.50
1997	6.84	12.15	2.74	2.45	2.70	2.96
1998	1.18	5.19	7.44	5.11	4.53	5.53
1999	1.88	2.60	4.59	3.67	3.26	4.27
2000	0.65	2.55	5.49	4.08	3.55	3.62
2001	0.67	0.87	1.50	2.39	2.03	2.49
2002	2.50	2.70	1.74	2.31	2.82	2.60
2003	3.24	3.40	1.66	2.52	3.27	4.82
2004	2.14	1.90	3.98	3.47	2.64	2.29
2005	1.56	2.49	2.01	3.75	3.18	7.23
2006	5.83	5.16	3.42	5.38	8.56	6.84
2007	1.32	0.87	2.14	2.07	1.74	1.67
2008	0.70	1.70	1.81	1.79	1.89	2.68
2009	0.57	0.96	2.32	3.64	2.40	4.21

2010	0.71	2.48	2.31	2.31	3.25	3.70
2011	4.31	2.10	1.96	6.20	5.23	4.94
2012	0.49	0.96	0.74	3.03	3.70	2.27
2013	4.09	1.34	1.08	1.71	2.02	1.43
2014	0.38	0.36	1.22	2.05	1.71	1.18
2015	2.89	0.79	2.23	0.84	0.76	0.82
2016	1.26	3.67	2.10	6.50	2.92	2.53
2017	3.71	8.53	12.65	5.52	6.61	5.84
2018	0.73	1.47	0.81	3.85	4.23	2.13
min	0.34	0.36	0.45	0.54	0.69	0.82
mean	1.92	2.89	2.82	3.54	3.14	3.56
max	9.14	12.15	12.65	10.57	8.56	7.51

1966-2015 mean

Official Year Classifications based on May 1 Runoff Forecasts  
 Sacramento Valley Index      San Joaquin Valley Index

WY	Index	Yr-type	Index	Yr-type
1995	12.4	W	5.5	W
1996	9.7	W	3.9	W
1997	11.0	W	4.2	W
1998	12.4	W	4.9	W
1999	10.0	W	3.4	AN
2000	9.2	W	3.3	AN
2001	5.9	D	2.3	D
2002	6.5	D	2.3	D
2003	8.0	AN	2.7	BN
2004	7.7	BN	2.2	D
2005	7.4	BN	4.2	W
2006	13.0	W	5.5	W
2007	6.2	D	1.9	C
2008	5.4	C	2.1	C
2009	5.5	D	2.4	D
2010	6.9	BN	3.5	AN
2011	10.0	W	5.1	W
2012	6.9	BN	2.2	D
2013	5.8	D	1.6	C
2014	4.0	C	1.1	C
2015	4.0	C	0.7	C
2016	7.1	BN	2.4	D
2017	14.9	W	6.2	W
2018	7.2	BN	3.0	BN

Abbreviations:

- WY Water year (Oct 1 - Sep 30)
- W Wet year type
- AN Above normal year type
- BN Below normal year type
- D Dry year type
- C Critical year type
- % exc. Probability in % that a given value will be exceeded
- [maf] Million acre-feet

Notes:

Unimpaired runoff represents the natural water production of a river basin, unaltered by upstream diversions, storage, export of water to or import of water from other basins.

Sacramento River Runoff is the sum (in maf) of Sacramento River at Bend Bridge, Feather River inflow to Lake Oroville, Yuba River at Smartville, and American River inflow to Folsom Lake. The WY sum is also known as the Sacramento River Index, and was previously referred to as the "4 River Index" or "4 Basin Index". It was previously used to determine year type classifications under State Water Resources Control Board (SWRCB) Decision 1485.

Sacramento Valley Water Year Index = 0.4 \* Current Apr-Jul Runoff Forecast (in maf) + 0.3 \* Current Oct-Mar Runoff (in maf) + 0.3 \* Previous Water Year's Index (if the Previous Water Year's Index exceeds 10.0, then 10.0 is used). This index, originally specified in the 1995 SWRCB Water Quality Control Plan, is used to determine the Sacramento Valley water year type as implemented in SWRCB D-1641. Year types are set by first of month forecasts beginning in February. Final determination is based on the May 1 50% exceedence forecast.

Sacramento Valley Water Year Hydrologic Classification:

- Year Type: Water Year Index:
- Wet Equal to or greater than 9.2
- Above Normal Greater than 7.8, and less than 9.2
- Below Normal Greater than 6.5, and equal to or less than 7.8
- Dry Greater than 5.4, and equal to or less than 6.5
- Critical Equal to or less than 5.4

San Joaquin River Runoff is the sum of Stanislaus River inflow to New Melones Lake, Tuolumne River inflow to New Don Pedro Reservoir, Merced River inflow to Lake McClure, and San Joaquin River inflow to Millerton Lake (in maf).

San Joaquin Valley Water Year Index = 0.6 \* Current Apr-Jul Runoff Forecast (in maf) + 0.2 \* Current Oct-Mar Runoff (in maf) + 0.2 \* Previous Water Year's Index (if the Previous Water Year's Index exceeds 4.5, then 4.5 is used).

This index, originally specified in the 1995 SWRCB Water Quality Control Plan, is used to determine the San Joaquin Valley water year type as implemented in SWRCB D-1641. Year types are set by first of month forecasts beginning in February. Final determination for San Joaquin River flow objectives is based on the May 1 75% exceedence forecast.

San Joaquin Valley Water Year Hydrologic Classification:

- Year Type: Water Year Index:
- Wet Equal to or greater than 3.8
- Above Normal Greater than 3.1, and less than 3.8
- Below Normal Greater than 2.5, and equal to or less than 3.1
- Dry Greater than 2.1, and equal to or less than 2.5
- Critical Equal to or less than 2.1

Eight River Index = Sacramento River Runoff + San Joaquin River Runoff

This Index is used from December through May to set flow objectives as implemented in SWRCB Decision 1641.

The 'reconstructed' table is based on observed runoff, and does NOT show the official year-types, which are based on May 1 forecasts of future runoff.

The current water year indices based on forecast runoff are posted at [http://cdec.water.ca.gov/water\\_supply.html](http://cdec.water.ca.gov/water_supply.html) and published in DWR Bulletin 120 (also available at <http://cdec.water.ca.gov/snow/bulletin120>)

These indices have been used operationally since 1995, and are defined in SWRCB Decision 1641

([https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/decision\\_1641/](https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/decision_1641/))

This report is updated each fall once the data is available.

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